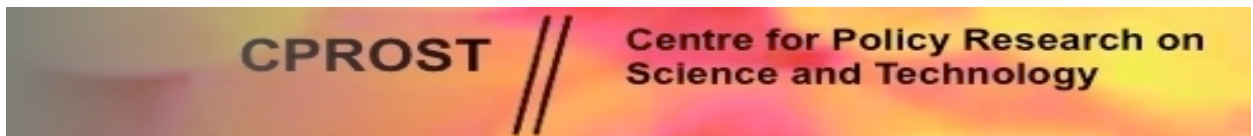


**Sri Lankan Expatriate
Scientists in Vancouver:
Attitudes towards returning
to Sri Lanka to rebuild**

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J. Adam Holbrook**

CPROST Report 08 - 03



1. Executive Summary

On December 26, 2004 a tsunami hit Sri Lanka, killing over 30,000 people. Adam Holbrook from the Centre for Policy Research on Science and Technology (CPROST) was in the country at the time, advising the Sri Lankan Ministry of Science and Technology (MOST) on how they could accelerate their economic development through their burgeoning high tech industries. For a country that has already been ravaged by 20 years of civil war, the tsunami only exacerbated their economic and political woes.

Like many South Asian countries, Sri Lanka has a large expatriate community – many of whom are accomplished scientists working in Western countries like Canada. MOST recognized this issue prior to the tsunami and have been working on a recruiting campaign to entice Sri Lankan expatriate scientists back to help rebuild the nation. The tsunami added a note of urgency to this effort as expatriate scientists are needed now, more than ever, to aid with the reconstruction of Sri Lanka.

Adam Holbrook agreed to assist MOST with their efforts to recruit expatriate scientists back to Sri Lanka by conducting field research in Vancouver on the Sri Lankan population to determine what might entice some of these expatriates to return. The task of managing the research was given to Aaron Cruikshank, a graduate student at SFU in the Master of Public Policy program. To guide the research, the following research questions were identified:

1. Why are Sri Lankan scientists leaving Sri Lanka?
2. What can be done to encourage them to come back?

This report is the culmination of four months of research on these issues. After interviewing 39 Sri Lankan expatriate scientists living in Vancouver, the researchers found that the main reason why the respondents were leaving Sri Lanka was the civil war or its impact on quality of life in Sri Lanka. For most, the quality of life in Canada is so much better than in Sri Lanka that they would not consider returning to Sri Lanka permanently. The few respondents who would consider returning to Sri Lanka permanently tended to be young students who are finishing their Masters degree in Vancouver.

The good news for Sri Lanka is that the majority of the respondents would be willing to return on a short-term basis (four months to one year). The conditions under which they would be willing to return revolve around having a good job opportunity (read as: not a Sri Lankan government make-work project), a reasonable salary that meets local cost of living and the ability to bring their family with them.

In conclusion, it appears that MOST's recruitment campaign could meet with increased success if:

1. MOST works with universities and government offices in the countries where expatriates are located to develop an exchange program that would see more experienced expatriates return to Sri Lanka on a short-term assignment with funding earmarked for tsunami relief.
2. MOST works with Sri Lankan universities to track graduates who leave Sri Lanka to pursue graduate studies and makes sure that young, recently graduated expatriates get a personal invitation back to Sri Lanka with the offer of a real job in their field.
3. MOST cleans up the look and feel of their recruiting materials to bring it in line with competing materials in Western countries.
4. MOST works with local industry in Sri Lanka to increase employment opportunities within Sri Lanka.

All of these activities are possible given the limited budget and resources of MOST but will require dedication and commitment from the highest levels of government in Sri Lanka.

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3. Background

This section is intended to add context to the policy problem: *Why do Sri Lankan scientists leave Sri Lanka and what can be done to bring them back to Sri Lanka?* One cannot attempt to answer these questions without taking into account the highly complex historical, economic, social and political problems leading to a mass exodus of knowledge workers. The following information will illustrate the real complexity of the current situation in Sri Lanka.

3.1. Impact of the 2004 Tsunami

On Boxing Day, 2004 Sri Lanka and neighboring countries were hit hard by a tsunami. The tsunami killed more than 31,000 Sri Lankans, affected two-thirds of the coastline (see Figure 1), destroyed 99,000 houses and displaced 443,000 people. Damages to schools, hospitals, clinics and pharmacies were severe (ILO, 2005). In total, one million people in Sri Lanka were seriously affected by the tsunami – putting further strain on an already stressed nation. The tsunami destroyed many pillar industries in Sri Lanka such as fishery, agriculture and tourism. 150,000 homes, 200 educational institutions, and 100 health facilities were affected, and possibly diminished during the incident.

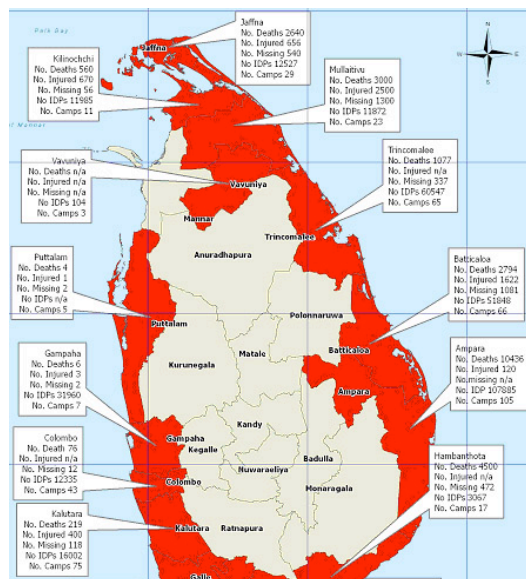


Figure 1: Map of the Sri Lankan regions affected by the tsunami. Source: MapAction.

While Western nations have been very generous in stepping in with economic aid to help reconstruct the crippled nation, the political realities in Sri Lanka have made the issue of where and how the aid money is distributed within Sri Lanka a significant political football in 2005. In June 2005, the Janatha Vimukthi Peranuma (JVP) withdrew from the ruling alliance with the United People's Freedom Alliance (UPFA), which is dominated by the Sinhalese, in protest of the government's efforts to accelerate the peace process with the LTTE through decentralization of power. The Bilateral Donors' Group, which was established to coordinate the delivery of the international assistance in Sri Lanka, is expected to play an important role between the Sri Lanka's government and the LTTE to develop a tool for managing the reconstruction funds (CIDA, 2005).

Economic growth after 2002 and prior to the 2004 tsunami has been robust with increased business and consumer confidence, overseas workers' remittances, tourist revenues, exports and foreign aid receipts (Donnelly, 2003). However, a study published by the World Bank in February estimated that Sri Lanka's full recovery from the tsunami disaster would require about \$1.5 billion in external aid – much of it earmarked for Tamil territory (World Bank, 2005). The disaster, in a way, promises more funding for the LTTE and brings international recognition closer. However, the tsunami has damaged the LTTE's military capacity because many of the communities they depend on for soldiers have been devastated (Economist, 2005). The impact of the tsunami was also not evenly distributed between the Tamil and Sinhalese populations in Sri Lanka. Sixty-seven percent of the casualties were Tamil – a community that is already a minority in Sri Lanka. In this way, the impact of the tsunami on the Tamil community and the LTTE was an order of magnitude greater than for the Sinhalese community.

It is estimated that more than 400,000 workers were displaced in the tsunami affected districts (see Figure 1). The bulk of the job losses have been in the fisheries, hotel and tourism industries (including eco-tourism, which was showing signs of rapid growth) and Sri Lanka's large informal (or "grey") economy. Unemployment in these districts is estimated to have risen from 9.2% to more than 20% and possibly higher given that official statistics on unemployment are hard to come by at the moment. Sectors such as

construction and transport have grown since the tsunami as foreign and local firms ramp up efforts to rebuild infrastructure after the tsunami (ILO, 2005).

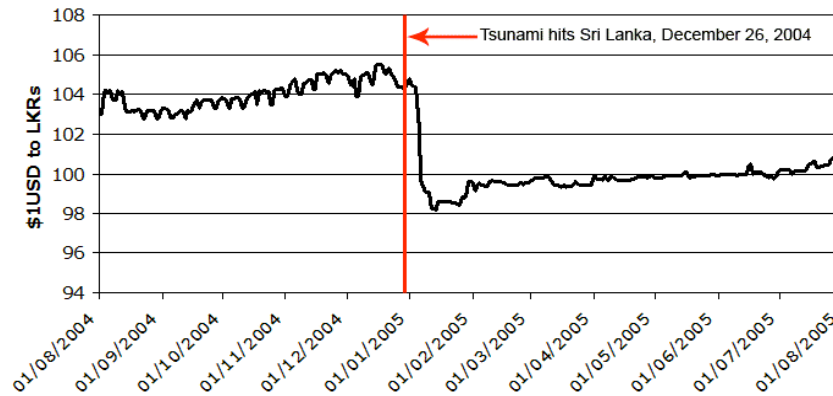


Figure 2: Sri Lanka Rupee (LKR) performance against USD, August 2004 - August 2005. *Source: OANDA Inc.*

The government of Sri Lanka has some concerns about the impact of a spike in incoming foreign aid in response to the tsunami. While the help is more than welcome the Central Bank of Sri Lanka recognizes that “the efficient utilization of foreign assistance for reconstruction and rehabilitation without disturbing the macroeconomic stability and on going development processes in the other parts of the country requires a significant improvement in the absorption capacity” (Central Bank, 2005). Evidence of this problem can be seen when one looks at fluctuations in the value of the Sri Lankan Rupee before and after the tsunami.

Figure 2 shows that the value Sri Lanka Rupee experienced a decrease in value against the US dollar. For an export-oriented country like Sri Lanka, this is not good news. India experienced a similar phenomenon in the 1960s. An influx of foreign aid and high levels of government expenditures led the government to print massive amounts of currency, significantly devaluing the rupee in that country (Johri and Miller, 2002).

3.2. Business Climate

There are few barriers to entry in Sri Lanka’s economy. With no minimum net worth required to start a business and an average cost (% of income per capita) of only 10% compared to the regional average of 45%, the opportunity cost for starting a business in Sri Lanka is very low (World Bank, 2004). Small businesses have experienced the most growth in Sri Lanka since 1977 thanks to the barriers to entry facilitated by an effort to introduce a free market environment (Morrison, 2001). Despite a difficulty of hiring index of 0 (indicating labour is easy to come by) the difficulty of firing index is 80 (much higher than the OECD average of 26.8). There are five major security risks identifies by the Economist Intelligence Unit that have an oppressive effect on the economy (Economist, 2004):

1. Armed conflict between the LTTE and the government confounds macroeconomic stability, reduces growth potential and requires a redirection of tax revenue earmarked for public infrastructure to military expenditures.
2. Terrorism threatens private businesses and requires many companies to hire private security forces.
3. Civil unrest before and after elections destabilizes the economy.
4. Violent crime is on the rise due to the availability of black market weapons made available by the conflict between the LTTE and the government.
5. The LTTE funds itself with drug smuggling and organized crime, introducing a significant black market to Sri Lanka that upsets normal commerce.

Business climate conditions have improved after the signing of a cease-fire agreement between the LTTE and the government in February 2002. For the first time in 20 years, goods now able to travel the length

and breadth of the country and infrastructure reconstruction efforts have begun in the war-ravaged northeast. However, some of this internal trade is restricted by numerous military checkpoints along the main route running North-South (Sarvananthan, 2003).

3.3. Social Development

One cannot examine economic indicators out of context with the social ramifications of a nation plagued by war, natural disaster and the marginalization of whole segments of the population.

3.3.1. Human Development

Sri Lanka ranks 96th out of 177 countries surveyed by the United Nations Development Programme's (UNDP) Human Development Index (HDI). While this puts Sri Lanka near the median in terms of indicators like life expectancy, literacy, education enrollment and GDP per capita (UNDP, 2004). Sri Lanka has a relatively high Human Development Index (HDI) score (see Social Development section) but the country's GDP per capita is lower than countries with comparable HDI scores (United Nations Development Programme, 2004). Even though Sri Lanka's GDP has grown steadily since 1975, the country scores 112th out of 177 countries surveyed by the UNDP in terms of GDP per capita.

Table 1: Select Human Development Index indicators for Sri Lanka, 2004

Life expectancy at birth (years)	Adult literacy rate (% 15 years of age and above)	Combined gross enrolment ratio for primary, secondary and tertiary schools (%)	GDP per capita (PPP US\$)
72.5	92.1	65	3,570

Source: UNDP Human Development Index 2004.

This ranking is comparable to China and the Dominican Republic but is weighed down by low school enrollment and low GDP per capita indicators. Life expectancy and adult literacy are on par with many developed nations in the Human Development Index. In fact, Sri Lanka ranks 39th out of 95 developing countries on the Human Poverty Index – on par with Saudi Arabia (UNDP, 2004).

With some 13 public universities and tuition subsidized 100 per cent by the Government of Sri Lanka, the country's post-secondary education system services roughly 61,000 undergraduate students per year. However, full-time enrollment in post-secondary education is less than two per cent of the usual age cohort compared to an average of eight per cent in the rest of South Asia (World Bank, 2003). This is in sharp contrast to the very high rates of primary and secondary education enrollment – two figures driving Sri Lanka's high (relative to other countries in the region) HDI score (UNDP, 2004).

An independent review of Sri Lanka's public university system concluded that Sri Lanka's main challenges with regards to undergraduate education include (World Bank, 2003):

1. Poor quality and relevance of undergraduate education
 - Curriculum not “in tune” with the country's economic and social needs.
 - Universities are critically under-funded in terms of learning resources such as computers and lab equipment.
 - Over 60 per cent of university faculty in Sri Lanka do not have PhDs.
2. High unemployment amongst university graduates
 - 58 per cent of graduates under 25 years of age are unemployed.
 - 35 per cent of graduates between 25 and 30 year of age are unemployed.
 - Those graduates that are employed are largely employed in “make-work” positions within the Sri Lankan public service.
 - Sri Lankan employers, when surveyed, report that they are dissatisfied with the quality of Sri Lankan graduates.

3.3.2. Demographics

The current population of Sri Lanka is estimated at just over 20 million people. Population growth rates have reached a plateau at 0.79% (CIA, 2005).

Table 2 illustrates the long-term demographic trends in Sri Lanka. Like many Western countries after World War II, population growth is approaching zero, the median age is climbing as live births decline and life expectancy increases.

Table 2: Demographic Trends for Sri Lanka

Total population (millions)			Annual population growth rate		Urban population (% of total)		
1975	2002	2015*	1975-2002	2002-2015*	1975	2002	2015*
13.5	18.9	20.6	1.3	0.7	22	21.1	22.5
Population under age of 15 (% of total)			Population age 65 and above (% of total)		Total Fertility Rate (births per woman)		
2002		2015*	2002	2015*	1970-75	2000-2005*	
25		21.3	6.9	9.3	4.1	2	

Source: UNDP Human Development Index 2004.

While

Table 2 hints at a demographic problem in the rapidly climbing proportion of the population over the age of 65, a recent study suggests that this trend may be a larger problem for Sri Lanka than these figures indicate. In most other developed and developing countries, the process of doubling the population over 65 took 50 to 150 years. Demographic projections indicate that Sri Lanka will see their elderly population double from 7% to 14% in 20 years (Rannan-Eliya, 1999). This trend will see Sri Lanka's labour force shrink significantly by 2030.

Sri Lanka's human resources are currently its primary development asset. In the past, it has been difficult to find jobs for everyone who wanted one but as the median age of labour increases, hiring workers will become difficult for Sri Lankan companies – a problem that will be exacerbated by migration if current trends persist (see next section). There are several serious impacts for Sri Lanka with regards to population ageing (Rannan-Eliya, 1999):

1. A shifting of fiscal priorities will see less funding applied to Sri Lanka's post-secondary education system. The education system will need to be re-oriented to reflect human resource needs as human capital becomes scarce.
2. A disproportionate demand on Sri Lanka's modest pension system could cause a fiscal imbalance.

3.3.3. Migrant Workers

Since the beginning of the LTTE conflict, labour migration from Sri Lanka has grown exponentially with an estimated 750,000 – 1.2 million Sri Lankans working overseas (Sriskandarajah, 2002). Add to this some 700,000 displaced migrants that have sought refugee status or asylum in other countries and the amount of Sri Lankans living overseas is close to 2 million. Currently, the net migration rate is -1.27/1,000 population annually (CIA, 2005).

Table 5 illustrates the two basic channels of migration flow from Sri Lanka. They have distinct demographic characteristics that clearly divide Sinhalese and Tamil migrants. Despite the seeming differences of these flows, the catalyst for migration in both categories is the armed civil conflict in Sri Lanka from 1983 onwards (Sriskandarajah, 2002).

Table 3: Characteristics of Recent Migration Flows from Sri Lanka

	Labour migration	Political migration
What?	Voluntary movements	Forced movements
Why?	Economic reasons	Conflict-driven
How long?	Temporary	Permanent
Who?	Single migrants	Household migration
Where?	Middle East	India and Western nations
Which group?	Sinhalese, Muslims	Tamils
How?	Formal channels	Informal channels

Source: (Sriskandarajah, 2002)

This is not to say that migration from Sri Lanka is a new phenomenon. As a Commonwealth nation, Sri Lanka's educated elite have a long history of studying overseas – particularly in Britain (Sriskandarajah, 2002). Educated Tamils, in particular, have been leaving Sri Lanka in droves since the 1970s because they found better working opportunities in other countries where they were not so heavily discriminated against.

What has changed since 1983 is the amount and makeup of migrant labourers from Sri Lanka (see Table 4). In 2003, the Sri Lankan Bureau of Foreign Employment (SLBFE) estimated that 680,000 women were working abroad, over 80% of them as housemaids in the Middle East. The increase in labour migration has made the Sri Lankan government and impoverished Tamil families in the North and East increasingly reliant on foreign remittances (Gamburd, 2004).

Table 4: Labour Migration Departing Sri Lanka by Occupational Group (selected years)

Occupational Group	1980	%	1992	%	2000	%
High-level	2,517	6	1,245	1	983	<1
Middle-level	4,116	10	6,225	5	10,203	6
Skilled	11,964	28	22,409	18	36,028	20
Unskilled	17,681	41	9,960	8	35,087	19
Housemaids	6,467	15	84,655	68	98,636	54
Total	42,745		124,494		181,370	

Source: (Sriskandarajah, 2002)

Despite the Sri Lankan government's concerns that high-level "brain drain" is a serious threat to long-term development, it would appear that the larger threat is skilled labour – plumbers, welders, mechanics. Unskilled labour and housemaids make up the majority of migrant workers.

Private remittances from migrant workers are estimated to inject more than USD\$1 billion per year into Sri Lanka's economy. This is an important input when one considers that Sri Lanka's GDP is USD\$16.6 billion (UNDP, 2004; CIA, 2005). Roughly 2.5 million Sri Lankans depend on this money for their living expenses (Sriskandarajah, 2002). Years of conflict have left some families, particularly in the North, with little other opportunity to bring in money.

3.4. Canada's Role

Despite Canada classifying the LTTE as a terrorist organization, the largest group of Tamil migrants lives in Canada. The UNHCR estimated in 2001 that there were approximately 400,000 displaced Tamils in Canada, the majority of whom are refugees or asylum seekers (Sriskandarajah, 2002). Sri Lanka is also a reasonably sized trade partner with Canada as Canadian exports to Sri Lanka total \$46.5 million annually and Sri Lanka imports \$103.2 million worth of goods to Canada annually – mostly in the form of finished textiles (DFAIT, 2004; Central Bank, 2005).

Following the tsunami strike in December 2004, the Canadian government has committed \$425 million toward a five-year comprehensive response in the region. These funds will be allocated to initiatives of humanitarian aid, rehabilitation, and reconstruction in the most affected countries, particularly Sri Lanka and Indonesia. About \$90 million of these funds have been released for use by NGOs to date. The Canadian International Development Agency (CIDA) has developed a reconstruction strategy for Sri Lanka that is driven by that country's own needs and priorities (CIDA, 2005). As the sole channel for Canadian

disaster relief to Sri Lanka, CIDA is proposing a four-year, \$10 million campaign to support social development and tsunami-related reconstruction (Graham, 2005). CIDA is also providing a number of individual projects with funding to assist Sri Lanka with their disaster recovery efforts, including (CIDA [2], 2005):

- **Project for Rehabilitation through Education and Training (PRET) IV—tsunami component.** \$1 million to the World University Service of Canada (WUSC).
- **Canada/Sri Lanka Municipal Cooperation Program—tsunami.** \$9.3 million to Federation of Canadian Municipalities (FCM).
- **Women Defining Peace Project—tsunami component.** \$1.6 million to an agency TBA.

4. Methodology

Adam Holbrook, while visiting Sri Lanka as an advisor to the Ministry of Science and Technology (MOST) in Colombo, was discussing the problem of expatriation and economic development with his colleagues there. This issue is one that has been “on the radar” of the Sri Lankan government for years but is particularly worrying for MOST as a lack of qualified research scientists hinders the country’s efforts to achieve economic success through the commercialization of technology. Holbrook was in Colombo on December 26, 2004 – the day that a massive tsunami struck Sri Lanka, killing more than 30,000 people. This event added a level of urgency to MOST’s efforts to recruit and retain expatriate Sri Lankan scientists.

It was suggested at this time that Holbrook conduct qualitative research in Vancouver on the large Sri Lankan population – a number of whom hold high-profile science and technology positions within academia, industry and government. As Holbrook had an undergraduate qualitative research methodology class scheduled between May and August of 2005 (Communications 362), the timing seemed right to carry out the proposed research.

After a brief literature review by Cruikshank and Holbrook, a survey was developed with the goal of answering some of MOST’s pressing concerns including: will the scientists come back? for how long? under what conditions? A pilot survey was tested with a group of Sri Lankan undergraduate students at the University of British Columbia and their suggestions were incorporated into the final draft that was submitted for ethics approval with Simon Fraser University (see Appendix A for the final version of the survey). After obtaining ethics approval, Holbrook and Cruikshank worked the subject matter into Communications 362 where Holbrook was the instructor and Cruikshank was the teacher’s assistant.

Parallel to preparing the students to collect the field data (using the survey) Cruikshank culled a list of 20 Sri Lankan scientists living in Vancouver who would agree to participate in the study. The criteria for inclusion in the study are as follows:

- Respondents must be born in Sri Lanka
- Respondents must be currently living in Vancouver (or the Lower Mainland)
- Respondents must be a scientist (as defined by holding a post-secondary degree in a science field such as health, engineering, biology, etc...)
- Respondents must be at least 18 years of age

Subjects were found by contacting a number of Sri Lankan NGOs in Vancouver and Sri Lankan staff members at local universities. These contacts in turn provided more contacts¹ with a final roster of interviewees numbering 51². The contact information for these respondents was given to pairs of students in Communications 362 and they were required to book a time with the respondent and administer the survey in person, taking detailed field notes and recording observations. The students were required to deliver the survey, report the results back to Cruikshank and obtain a second interview using contacts provided by the first respondent.

¹ This methodology is commonly referred to as “the snowball” method – alluding to the way a snowball rolled down a hill can gather up snow as it rolls and build into an avalanche.

² Note that the final sample size includes only 39 respondents. Several of the respondents did not fit the criteria for the study upon further review and a number of the respondents did not wish to participate in the study when contacted by the students.

In total, 41 surveys were completed by the Communications 362 students – 39 of which were useable for this study. The analysis of this data fell to Cruikshank, who produced this document for graduate credit. Analysis methodology included a literature review, frequency analysis, cross-tabulation of survey data, regression analysis and a public policy review.

Deliverables from this project include this report, a briefing note to MOST and a briefing note to CIDA from Cruikshank and Holbrook, under the guise of the Centre for Policy Research on Science and Technology (CPROST) at SFU. Confidentiality of the research subjects will be maintained in all deliverables.

5. Findings

Following the order of the questions on the survey, the findings of this research project are summarized as follows:

In what year did the respondent leave Sri Lanka?

This question was designed to elicit a date that could be used to analyze the political climate at the time of expatriation across all respondents.

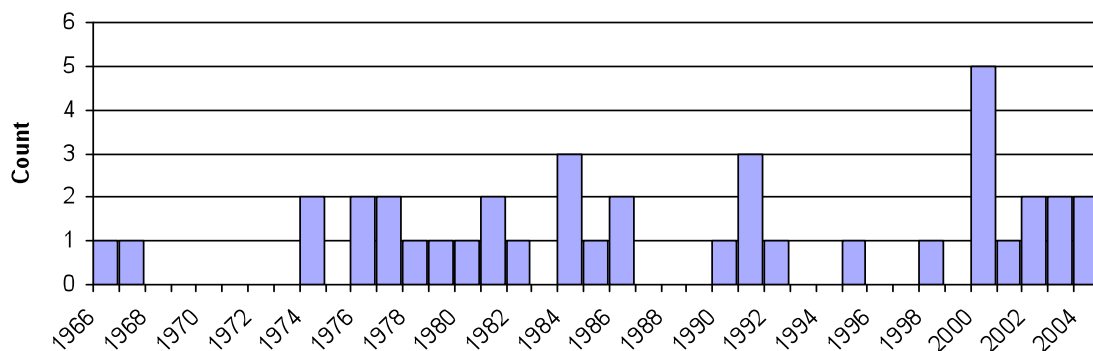


Figure 3: Year that respondents left Sri Lanka (n=39)

Figure 3 shows the respondents leaving Sri Lanka in clusters – possibly grouped by correlation with significant political upheavals in Sri Lanka. The large cluster of respondents that left Sri Lanka after 2000 is a side effect of the number of students that were interviewed for this research. It is not surprising to see a cluster of expatriates between 1976 and 1986 – a time when the civil war was at a peak in Sri Lanka. The spike in the early 1990s coincides with a number of high profile suicide bombings in Sri Lanka.

Did the respondent move directly to Vancouver from Sri Lanka?

This question was designed to determine if Vancouver is a destination of choice for Sri Lankan scientists or if they came here after a living in other jurisdictions.

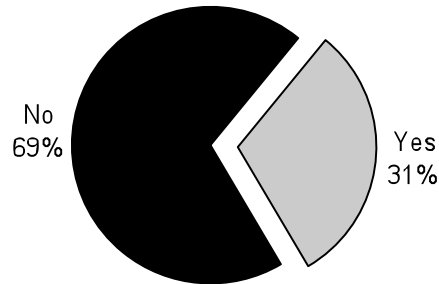


Figure 4: Did the respondent move directly to Vancouver from Sri Lanka? (n=39)

With over two-thirds of the respondents having emigrated to other jurisdictions before moving to Vancouver, the results for the next question will be particularly telling. While this finding is not surprising, it is likely that a large portion of the respondents that answered “yes” to this question are actually here on student visas, making the “no” responses even more significant.

Where did the respondent live prior to coming to Vancouver if answer to question 2 is “no”?

This question was designed to determine if there is a common channel for emigration to Vancouver for Sri Lankan scientists.

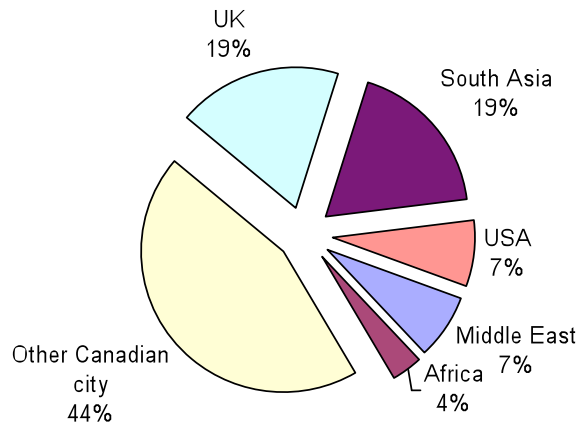


Figure 5: For respondents that did not move directly to Vancouver, what was the initial jurisdiction of emigration? (n=27)

These findings are interesting in that nearly half of the respondents came to Vancouver via another Canadian city. While this is not surprising given that Vancouver is not the only popular destination for South-Asian immigrants, it is interesting in that it is such a large proportion of the respondents. One would assume that other Commonwealth countries would be a more popular gateway for Sri Lankan expatriates in Vancouver – particularly Commonwealth countries in Asia. A surprising number of the respondents came to Vancouver via the Middle East – a region that was identified in the literature as being a popular destination for Sri Lankan expatriates in the trades such as construction.

Did the respondent arrive in Vancouver with family members?

This question was designed to determine if a respondent came here with a family, indicative of the seriousness of their immigration to Vancouver. It could also be indicative of their age – if the respondent moved to Vancouver while under the age of majority, they could have come under the supervision of parents.

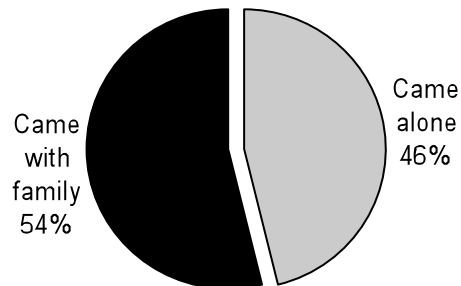


Figure 6: Did the respondent emigrate with family? (n=39)

Roughly half of the respondents came with family – a statistic that should be compared with the responses to Question 6 to analyze the real reasons why the respondents left Sri Lanka.

Did the respondent come to Vancouver as a student or a regular immigrant?

The literature review suggested that a large number of Sri Lankans living in Canada are here to further their education. This question attempts to quantify that anecdote.

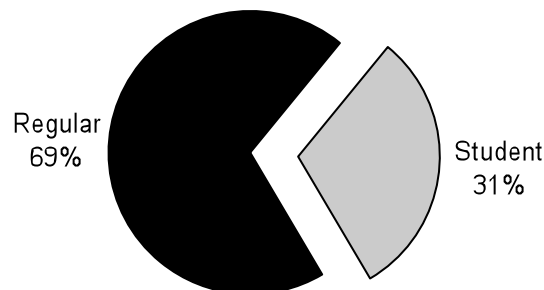


Figure 7: Immigration status of respondents in Canada. (n=39)

There is nothing unexpected about these findings. Note that refugees would be included under “regular” immigrants according to the Canada Immigration Act. Asking about refugee status is problematic for this study for a number of reasons – not the least of which is that with an emotionally charged issue such as refugees, the researcher will be unlikely to get an honest answer as there is a certain stigma attached to being a refugee.

Does the respondent plan on staying in Vancouver permanently?

This question starts to get at the core of the issue – are there Sri Lankan expatriate scientists living in Vancouver that are willing to go back to Sri Lanka?

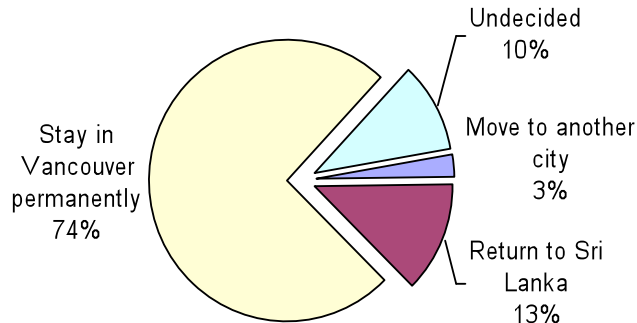


Figure 8: Will the respondent stay in Vancouver permanently? (n=39)

The overwhelming majority of the respondents are planning on staying in Vancouver permanently. While this result is probably reflective of the circumstances under which the respondent left Sri Lanka, it is surprising that there are not more respondents interested in returning to Sri Lanka given the apparent potential for peace in that country today.

Why did the respondent leave Sri Lanka?

This question was an open-ended question and the results were categorized after collection to facilitate analysis.

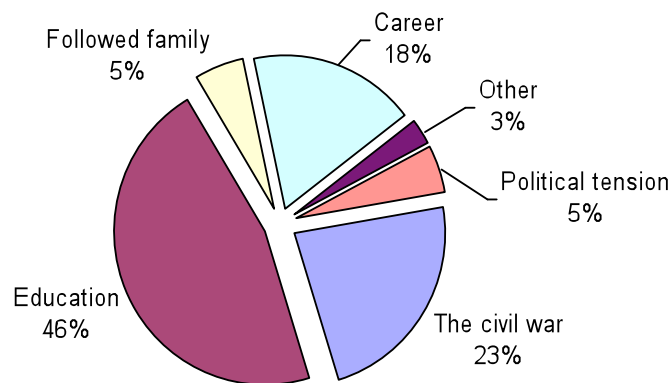


Figure 9: Why did the respondent leave Sri Lanka? (n=39)

Large proportions of the respondents claim to have left Sri Lanka to pursue education opportunities elsewhere. The fact that only 23 per cent of the respondents indicated that they left Sri Lanka because of the civil war was surprising. Political tension could be interpreted as related to the civil war but even if it is included, less than a third of the respondents claim to have left because of the war.

Where did the respondent live in Sri Lanka?

This question was designed to determine if the respondent lived in the Tamil-controlled areas of Sri Lanka or the Sinhalese-controlled areas.

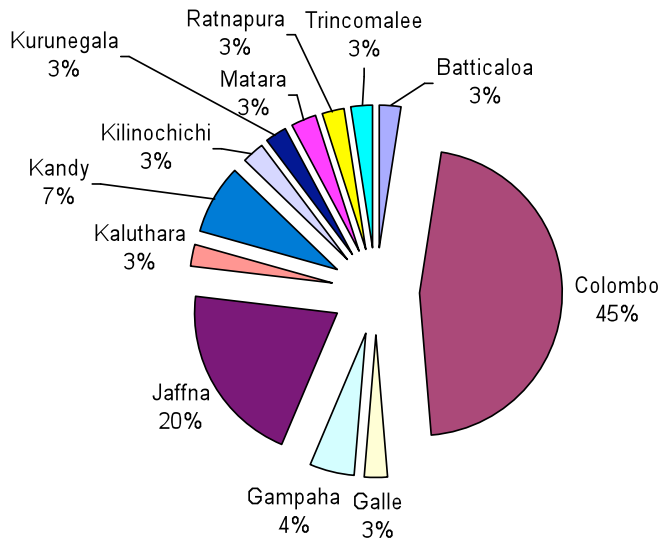


Figure 10: What district is the respondent from in Sri Lanka? (n=39)

Approximately one-third of the respondents hail from Tamil-controlled districts in Sri Lanka – roughly corresponding to the number of Sri Lankan respondents.

Which ethnic group does the respondent most strongly associate with?

This question allows the respondents to self-identify with one of the major ethnic groups in Sri Lanka.

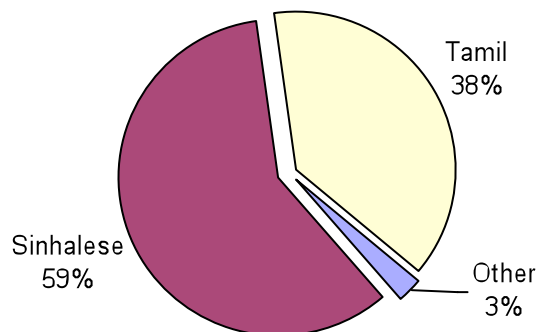


Figure 11: Which ethnic group does the respondent identify with? (n=39)

In line with the responses to question 7, just over half of the respondents self-identify as Sinhalese. The literature review suggested that it is typically Sinhalese that go into the technical fields so the fact that only 59% of the respondents are Sinhalese is unexpected.

Was the civil conflict a factor in the respondent's decision to leave Sri Lanka?

This question was inserted as a check against question 6 in which the respondents had an opportunity to identify the civil conflict as a factor in their decision to leave Sri Lanka.

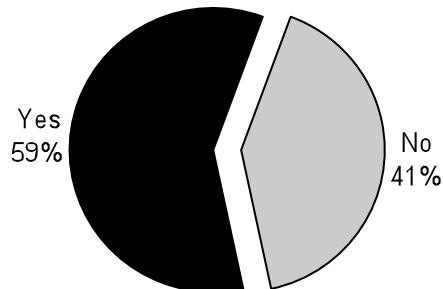


Figure 12: Was the civil conflict a factor in the respondent's decision to leave Sri Lanka? (n=39)

This result is surprising in comparison with the 23 per cent of respondents who indicated that they left Sri Lanka because of the civil war in question 6. It's possible that although the civil conflict was a factor in their decision to leave, it wasn't their primary reason for expatriating. Unfortunately, there was no question in the research that would allow the respondents to rank their reasons for leaving Sri Lanka.

What level of Post-Secondary education did the respondent achieve?

This was an open-ended question that allowed the respondent to identify which schools they completed each degree at but was later categorized to list the respondents by the highest level of education attained. It is assumed that these degrees are in science or science-related fields since the participant screening process should have filtered out non-scientists.

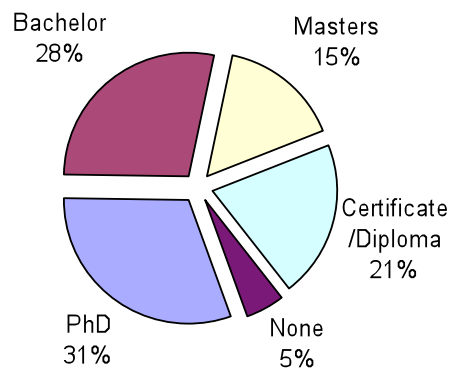


Figure 13: What level of post-secondary education did the respondent achieve? (n=39)

Not surprisingly, a large percentage of the respondents have their PhD. For many professional scientists in Canada, this level of education is mandatory. It is interesting to note that virtually none of the public universities in Sri Lanka offer graduate degrees. This means that the majority of the respondents who have graduate degrees will have obtained them outside of Sri Lanka.

Did you work when you lived in Sri Lanka? If so what did you do there?

The majority (77%) of respondents worked in Sri Lanka but this question was designed to determine which industries most commonly employed these respondents in Sri Lanka. This was an open-ended question that was later categorized for ease of analysis.

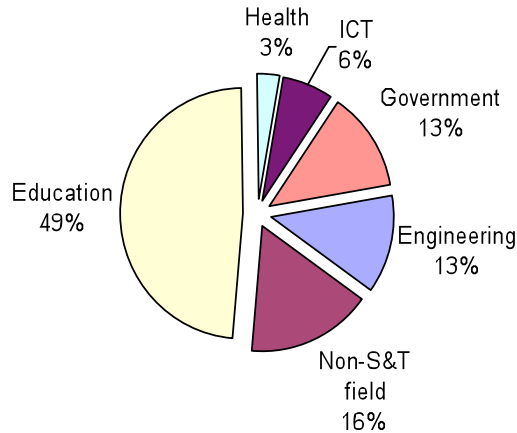


Figure 14: What was the respondent's career in Sri Lanka? (n=31)

These results are significant because as the literature review indicates, the Government of Sri Lanka makes liberal use of “make work” projects at universities and government agencies to keep unemployment amongst university graduates down. Over 65 per cent of the respondents worked in fields that are government controlled in Sri Lanka including health, education and government.

What is the respondent's current job in Vancouver?

This question is designed to categorize respondents by their career track in Vancouver and later, for comparison with their previous career (if any) in Sri Lanka. This was an open-ended question that was later categorized for ease of analysis.

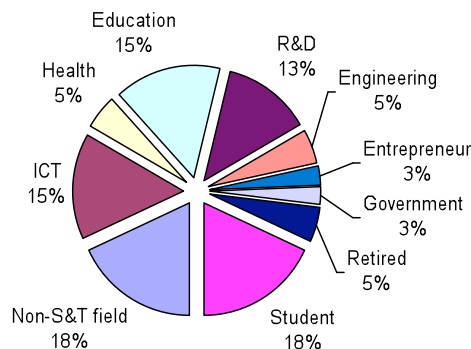


Figure 15: What is the respondent's current job? (n=39)

A number of the respondents that indicated that they work in R&D and Education are, in fact, students who are supplementing their education with work in their field. It is significant that a substantial proportion of the respondents are not working in a science and technology (S&T) field despite their qualifications. Part of this could be attributable to the fact that some foreign credentials are not recognized by employers in

Canada. Question 12a³ will not be reported on in this paper because the question was noted to be misinterpreted or not-applicable in the majority of instances.

How does life in Canada compare to life in Sri Lanka when the respondent left?

This open-ended question was designed to elicit some data on how the respondent feels about life in Canada for later comparison to data on living conditions in Sri Lanka.

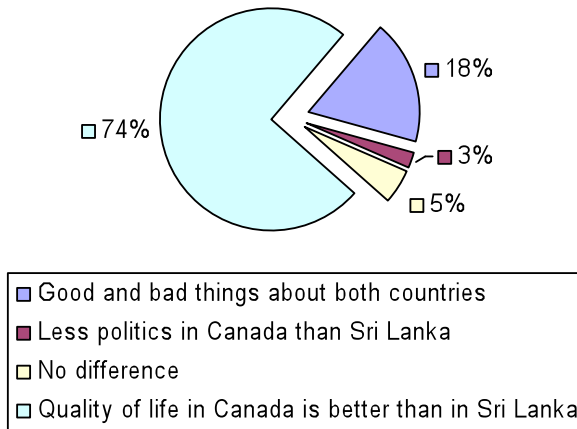


Figure 16: How does life in Canada compare to life in Sri Lanka when the respondent left? (n=39)

The responses to question 13 indicate overwhelmingly that the quality of life in Canada is far superior to that experienced in Sri Lanka by the respondents when they left that country. Given the much higher Human Development Index (HDI) score for Canada, this is not an unexpected result.

If the respondent was not already planning to return to Sri Lanka, what would make them want to return?

This question was designed as an open ended question to get an initial feel for the types of reasons why a Sri Lankan expatriate scientist might consider going back to Sri Lanka.

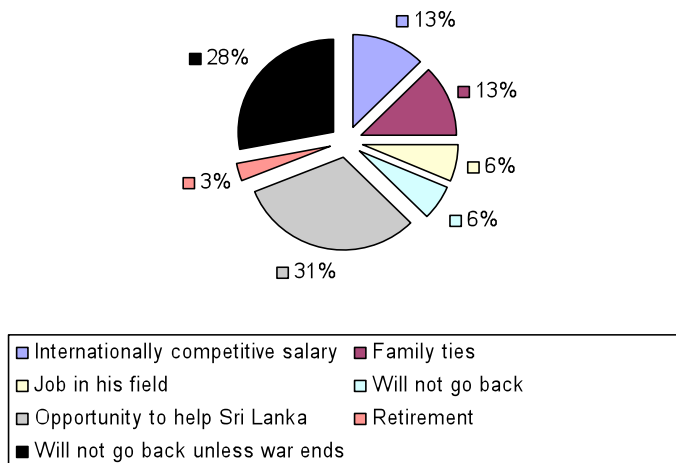


Figure 17: What would make the respondent want to return to Sri Lanka? (n=39)

³ 12a. If you are not doing what you would like to do, what occupation are you qualified for, and would like to do?

The majority of respondents will only go back to Sri Lanka under conditions that are not likely to be achieved in that country in the near future (internationally competitive salaries for researchers and the end of the civil war). While the civil war appears to some to be over, the recent killing of a Sinhalese government official indicates that it is not. It is interesting that 26 per cent of Sri Lankans would go back under some kind of “loyalty” incentive – either family obligations or some sense of nationalism that encourages them to help their home country.

If the respondent had the opportunity to return to Sri Lanka on a short-term assignment, would they go?

This question was designed to gauge the palatability of a policy option that has already been suggested by MOST – will some Sri Lankan scientists return to Sri Lanka for a short-term assignment to help rebuild?

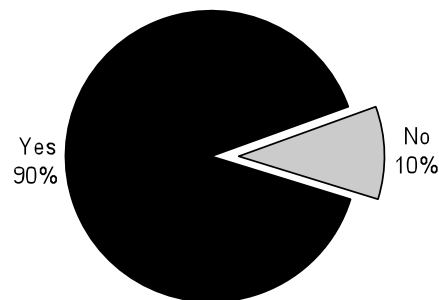


Figure 18: Would the respondent go back to Sri Lanka on a short-term assignment? (n=39)

The findings for this question are surprising. For all the vehemence with which some participants swore they wouldn't set foot into Sri Lanka until the war was over, the overwhelming majority of respondents indicated that they would be willing to return to Sri Lanka on a short-term assignment. Now, while this statistic may seem like good news for Sri Lanka, question 16 will help Sri Lanka determine if it can meet the demands of the expatriates it needs to recruit.

What terms and conditions would the respondent want to see before they will agree to a short-term assignment?

This question really drives at the point of this research – what, if anything will entice a Sri Lankan expatriate scientist back to Sri Lanka? This was an open-ended question that was later categorized for ease of analysis.

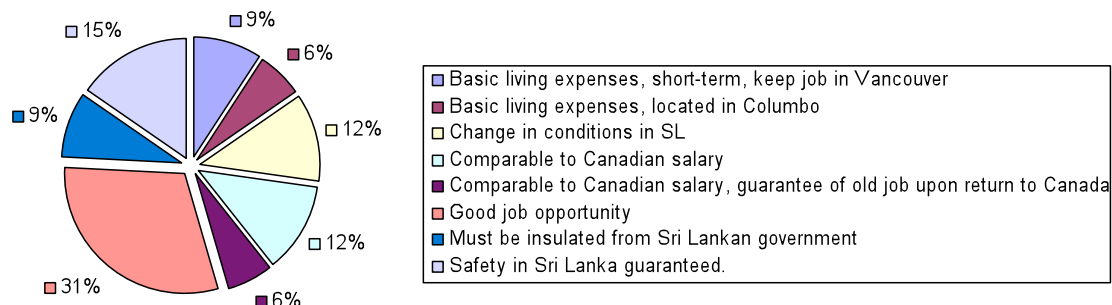


Figure 19: Terms and conditions that must be met to attract respondents to Sri Lanka (n=39)

These findings are interesting because roughly 30 per cent indicated that they needed a good job opportunity to go to. This indicates awareness that while Sri Lanka is unable to provide competitive salaries or guarantee the safety of the respondent, if they're going to go back it needs to be for a good cause. Competitive salaries figured heavily into the requirements of a significant number of respondents. A

further 15 per cent felt that their personal safety was the biggest concern, followed closely by those who want their basic cost of living in Sri Lanka covered.

Given the opportunity to go to Sri Lanka on a short-term assignment, would the respondent take their family with them?

This question was designed to gauge how safe the respondent thinks Sri Lanka is. Family is very important in Sri Lankan culture so to leave your family behind, even for four months, would be a big deal.

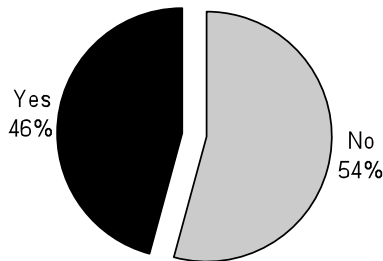


Figure 20: Would the respondent take their family with them to Sri Lanka on a short-term assignment? (n=39)

Figure 23 indicates that the majority of respondents would not take their family with them. This number may be inflated because the students who are currently completing their degrees in Vancouver have no family here with them. This could account for as much as half of “no” responses seen in Question 17.

Gender

One of the standardized observations is the gender of the respondent. The researchers were asked to observe and use their best judgment in determining the sex of the respondent.

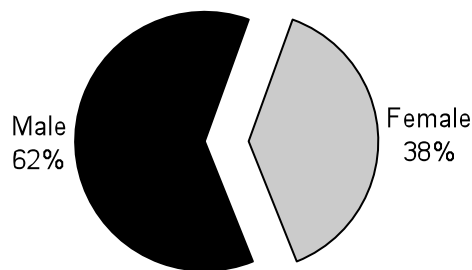


Figure 21: Gender of respondents (n=39)

Although a 50/50 split would have been ideal for this study, one has to recognize that females in Sri Lanka experience a high degree of discrimination, particularly over the matter of caste. Given this, it is surprising to find so many female respondents in the data.

Comments

Overall, the comments invited at the end of the survey saw respondents talking about the violence and mayhem they experienced while living through the civil war in Sri Lanka. Others were very concerned about the usage of this information and were clearly distrusting of any involvement with the Government of Sri Lanka. Still others felt that being a Tamil was truly a disadvantaged position – for some, even in Canada.

6. Analysis

While there are myriad social issues that can be examined using this data and general information on Sri Lanka, the purpose of undertaking this research was to determine why Sri Lankan scientists are leaving Sri Lanka and what can be done to encourage them to come back. With that in mind, this section endeavors to analyze the survey findings in context with the goal of developing a series of recommendations that will address the research questions – why did the subjects leave Sri Lanka and what would entice them to come back. The subheadings of this section are broken down by factors that could be used to build a profile of expatriate scientists who would be willing to return to Sri Lanka – factors such as gender, ethnicity and the date when they left Sri Lanka.

6.1. Year of departure from Sri Lanka

Willingness to return to Sri Lanka permanently and willingness to return on a short (four months to one year) assignment are the key factors that this study is interested in. As an initial scan, all of the non-related factors in the survey will be cross-tabulated with these two questions to get an idea if any these factors are related to a respondents' willingness to return.

For the analysis of the question that asks “do you plan on staying in Vancouver permanently”, the answers were re-coded into a dichotomous series. “Stay in Vancouver permanently” and “move to another city” were coded as “no, the respondent is not willing to return to Sri Lanka permanently”. “Return to Sri Lanka” and “undecided⁴” were coded as “yes, the respondent is willing to return to Sri Lanka permanently”. The other question asks respondents if they would be willing to return to Sri Lanka on a short-term assignment (four months to one year) and is already a dichotomous value.

Table 5: Cross-tabulation - willingness to return vs. year respondent left Sri Lanka

Is the respondent willing to return to Sri Lanka permanently?	Average year respondents left Sri Lanka	Is the respondent willing to return to Sri Lanka on a short-term assignment (4 mos - 1 year)?	Average year respondents left Sri Lanka
No (n=30, 77% of all respondents)	1985	No (n=3, 8% of all respondents)	1978
Yes (n=9, 23% of all respondents)	1999	Yes (n=35, 92% of all respondents)	1988

The first question of the survey asks respondents what year they left Sri Lanka. This information was intended to compare their answers about why they left against the timeline of the civil war in Sri Lanka. Table 5 shows that in answering questions about their willingness to return, there is a marked difference in the average year that the respondents left Sri Lanka. The first question about willingness to return permanently produces an interesting split – those who are unwilling to return to Sri Lanka permanently left, on average, around the outbreak of civil war in Sri Lanka. This is not surprising since the outbreak of civil war would leave a bad taste in the mouth of anyone.

Those respondents that indicated they would be willing to return to Sri Lanka permanently left, on average, closer to 1999. A further analysis of this subset of the nine respondents who are willing to return to Sri Lanka permanently reveals that six of them (66%) are in fact here on student visas compared to the six respondents who indicated they would not return to Sri Lanka permanently (20%). This fact warrants a few important considerations:

1. Willingness to return permanently is strongly associated with being in Vancouver on a student visa – a fact that may have more to do with family obligations back home than career/quality of life considerations.
2. A Canadian student visa limits the length of time that a holder can stay in Canada and restricts the holder from working outside the university – this may necessitate to Sri Lanka for these respondents.

⁴ “Undecided” was coded with respondents who would like to return to Sri Lanka permanently because they have not rejected the possibility out of hand and could potentially be swayed into returning with sufficient incentives.

3. Of the six respondents who came to Canada on a student visa but who will not return to Sri Lanka, half (three) of them have been in Canada for more than 20 years – indicating that they have subsequently applied for permanent resident status or a Canadian citizenship. It is also worth noting that refugees are not classified outside of “regular” immigrants and could explain why these three respondents (who arrived in Vancouver between 1980 and 1981) applied for refugee status after the outbreak of the civil war in Sri Lanka.

In any case, the fact that 77 percent of respondents are unwilling to return to Sri Lanka permanently does not indicate a positive forecast for those agencies within the Government of Sri Lanka who wish to recruit and retain their expatriate scientists permanently.

Table 5 also clearly shows a difference in average year the respondent left Sri Lanka and their willingness to return to Sri Lanka on a short-term assignment but the association with major political events in Sri Lanka is not as clear. While there was political tension in Sri Lanka before 1983 – tension that for several participants foreshadowed the violence to come and precipitated their departure – there is nothing unique about the late 1980s except the increased usage of suicide bombers by the LTTE. Obviously a rise in suicide bombers would not leave a positive impression in the minds of expatriates but in the context of willingness to return on a short-term assignment, what does it mean?

For most respondents the year that the respondents left Sri Lanka certainly correlates with their reported reason for leaving Sri Lanka. Table 6 shows a strong correlation between those respondents who left Sri Lanka because of the civil war and the start of the civil war. Similarly, those who listed “political tension” as their reason for leaving correlate with the rising civil unrest that preceded the civil war in the mid to late 1970s. Respondents leaving for “education” does not correlate with a significant date in Sri Lankan history and when individual dates in this category are examined, it is clear that the dates range over a four-decade span starting in the mid 1960s.

Table 6: Cross-tabulation - why respondent left Sri Lanka vs. average year of expatriation

Why did the respondent leave Sri Lanka?	Average year respondent left Sri Lanka
Conflict (<i>n</i> =7)	1984
Conflict, Education (<i>n</i> =4)	1994
Education (<i>n</i> =16)	1990
Followed Family (<i>n</i> =2)	1986
Jobs (<i>n</i> =7)	1988
Other (<i>n</i> =1)	1995
Political Tension (<i>n</i> =2)	1975

Respondents who followed their family to Vancouver also show an average date of expatriation in the mid 1980s – just a few short years after the outbreak of civil war, raising the possibility that while they personally did not make the decision to move to Vancouver, their parents may have left Sri Lanka because of the civil war. Those respondents seeking jobs show an average year of expatriation in roughly 1988 – a year of little significance in Sri Lanka but possibly reflective of an overall economic decline in Sri Lanka caused by the civil war (Central Bank of Sri Lanka, 2005).

6.2. Reason for leaving Sri Lanka

Not surprisingly, all nine respondents who were willing to return to Sri Lanka permanently were also willing to return on a short-term assignment. Of those nine respondents willing to go back permanently, seven listed “education” as part or all of their reason for leaving Sri Lanka initially. A point of greater interest for this study is those respondents who indicated their unwillingness to return to Sri Lanka permanently but who are willing to return on a short-term basis.

Table 7: Cross-tabulation - Willingness to return permanently (neg.) vs. willingness to return short-term vs. reason for leaving Sri Lanka

Is the respondent willing to return to Sri Lanka permanently?	Is the respondent willing to return to Sri Lanka on a short-term assignment?	What was the respondent's reason for leaving Sri Lanka?	Total	
No	No	Conflict	1	33%
		Political tension	2	67%
	Yes	Conflict	6	23%
		Conflict, education	2	8%
		Education	11	42%
		Followed family	2	8%
		Jobs	5	19%

Table 7 shows that those respondents who will not return to Sri Lanka (either permanently or on short-term assignment) left because of the conflict and political tension. Before conducting this research, Holbrook and Cruikshank anticipated that the bulk of respondents who would fall into this un-recrutable category would be the ones who experienced significant trauma due to the civil war. Comments from these respondents would seem to support that assumption:

“They [the LTTE] burnt down my house and tried to kill my family.”

“When they [the Sri Lankan government] would find [Tamil] Tigers, they would kill them and string them up from lampposts.”

“They came to the university and killed any of my colleagues that spoke out against the government.”

What is unexpected in Table 7 is that 31 percent of respondents left because of the civil war. Of those respondents who left because of the conflict, are unwilling to return to Sri Lanka on a permanent basis but who are willing to go back on a short-term assignment, over one-third of them list “to help Sri Lanka” as their motivation to return. While this is sub-set of the total pool of respondents that is willing to return to Sri Lanka on a short-term assignment, it speaks to the motivations that can be characterized as Nationalism or some sense of responsibility to their home country.

6.3. Route to Vancouver

Question 2 of the survey asked respondents if they moved directly to Vancouver from Sri Lanka or through another country. Just under one third of respondents indicated that they had moved directly to Vancouver from Sri Lanka. Table 8 shows that of those respondents that do not wish to return to Sri Lanka permanently, 80% came to Vancouver after living in another jurisdiction outside of Sri Lanka. While the respondents who are willing to go back to Sri Lanka permanently seem to show the opposite trend, one must examine the makeup of these nine respondents before drawing any conclusions.

Table 8: Cross-tabulation - willingness to return permanently vs. direct emigration to Vancouver

Is the respondent willing to return to Sri Lanka permanently?	Did the respondent move directly to Vancouver from Sri Lanka?	Total	
No	No	24	80%
	Yes	6	20%
Yes	No	3	33%
	Yes	6	67%

Of the six respondents who moved directly to Vancouver from Sri Lanka and who are willing to return to Sri Lanka permanently five are students that have arrived here within the last three years and whose explicit reason for leaving Sri Lanka was “education”. This suggests that being a student who has moved to Vancouver directly from Sri Lanka is strongly associated with a willingness to return to Sri Lanka on a permanent basis. There are several reasons why students would be more open to returning to Sri Lanka permanently – all of which are outlined in the analysis under Table 5.

6.4. Ethnicity of the research subjects

Respondents that self-identified as Sinhalese represent 59% of respondents and those who self-identified as Tamil represent 38% of respondents. While 3% of respondents indicated that they belonged to an “other” ethnic group, this only represents one respondent. For the purpose of this analysis, the “other” will be treated as an outlier.

At the outset of this study, the researchers were concerned that the vast majority of the respondents would be Tamil as no effort to select participants based on a quota (to control for factors such as gender, ethnicity or scientific field) was employed. This initial assumption was based on the fact that very few Tamils get access to the good universities in Sri Lanka and would, as a result, have a much lower proportion of scientists in its expatriate community. To find, based on a “snowball” methodology, that 38% of the respondents are Tamil (compared to 14% of Sri Lankans in Sri Lanka) was encouraging (CIA, 2005). Long-term trend data on Sri Lankan expatriates tell us that a large percentage of our respondents should be Tamil due to the high number of Tamil refugees leaving Sri Lanka after the civil war. Additionally, many Tamils expatriated to India or Western countries while a large percentage of Sinhalese expatriates went to the Middle East (Sriskandarajah, 2002).

On the matter of willingness to return, we find that only 13% Tamils indicated that they would be willing to return to Sri Lanka permanently versus the 30% of Sinhalese respondents who indicated that they would be willing to return permanently (see Table 9)⁵.

This finding is not surprising in that the standard of living in Colombo – the heart of Sinhalese-controlled Sri Lanka – is much higher than most Tamil-controlled parts of Sri Lanka (Sarvananthan, 2003). It does indicate that if the Ministry of Science and Technology (MOST) wants to target Tamil scientists living in Vancouver, they are going to have a very difficult time recruiting them on a permanent basis. While this study did not explore the socio-economic status (SES) of the respondents while they were in Sri Lanka – it is likely that those Sinhalese respondents who would return to Sri Lanka permanently enjoyed a high standard of living relative to other Sri Lankans.

Table 9: Cross-tabulation - willingness to return to Sri Lanka vs. ethnicity of respondent

Is the respondent willing to return to Sri Lanka permanently?	Ethnic group	Total	
No (<i>n</i> =29)	Sinhalese	16	55%
	Tamil	13	45%
Yes (<i>n</i> =9)	Sinhalese	7	78%
	Tamil	2	22%

In terms of respondents willing to return to Sri Lanka for a short-term assignment,

⁵ Note that this dichotomous value for “willingness to return” was coded such that “undecided” became “willing to return” with the logic that they are considering the possibility – therefore they might be convinced to return with the right incentives.

Table 10 shows that the overwhelming majority of respondents – both Tamil and Sinhalese – would be willing to return to Sri Lanka for between four months and a year. This finding is interesting in that one would not expect Tamils to be as willing to go back at all, given the hardships their home communities have endured over the past couple of decades.

Table 10: Cross-tabulation - willingness to return to Sri Lanka on a short-term assignment vs. ethnicity of respondent

Is the respondent willing to return to Sri Lanka on a short-term assignment?	Ethnic group	Total	
No (<i>n</i> =3)	Sinhalese	1	33%
	Tamil	2	67%
Yes (<i>n</i> =34)	Sinhalese	21	62%
	Tamil	13	38%

This surprising finding can be cross-correlated with another question from the survey – would you take your family back with you? This question was designed as a control to gauge the respondent’s opinion of the conditions in Sri Lanka. One would logically expect those who felt returning could be dangerous would not want to take their families back with them. Table 11 illustrates that only half of those who responded that they would return on a short-term assignment would take their family with them. This finding applies equally to both Sinhalese and Tamil respondents, indicating that neither group feels that living conditions in Sri Lanka are safe. In other words, the respondents who indicated that they would return on a short-term assignment but who would not take their family with them recognize the risk and are willing to go despite the risk but will not willingly exposed their loved ones to a perceived danger.

Table 11: Cross-tabulation - ethnicity + willingness to return on short-term assignment vs. intention to take family with them

		Would the respondent take their family with them?		
Ethnic Group	Would the respondent return to Sri Lanka for a short-term assignment?	No	Yes	Grand Total
Sinhalese	No	1		1
	Yes	10	10	20
Tamil	No	2		2
	Yes	6	6	12

Table 12 is interesting in that the civil war doesn't figure very heavily into the decision for most Sinhalese respondents to leave. Again, knowing the SES of these respondents would probably help clarify in that high-SES Sri Lankans – especially Sinhalese living in Colombo – likely did not experience the civil war as acutely as other Sri Lankans. Education opportunities figure heavily into the decision for most Sinhalese respondents. This is reflective of the fact that in Sri Lanka there are very few opportunities for Sri Lankan university graduates and a graduate degree from a foreign country, while earning the respondent more prestige in Sri Lanka, will have little impact on quality of life. Clearly, jobs and education opportunities figure heavily into Sinhalese respondents' decision to leave.

Tamil respondents, on the other hand, show a much higher propensity to leave because of the civil war. Education also figures heavily into their decision to leave, but likely for different reasons than Sinhalese respondents. Traditional restrictions on Tamils entering the post-secondary education system would force many Tamils to go overseas for their Bachelor's degree – something that is readily available to Sinhalese in Sri Lanka (World Bank, 2003). The conflict has also impacted Tamil-controlled areas of Sri Lanka disproportionately more than Sinhalese-controlled areas (Sarvananthan, 2003).

Table 12: Cross-tabulation - ethnicity + willingness to return to Sri Lanka permanently vs. reported reason for leaving

		Why did the respondent leave Sri Lanka?							
Ethnic Group	Will the respondent return to Sri Lanka permanently?	Conflict	Conflict, education	Education	Followed family	Jobs	Other	Political tension	Grand Total
Sinhalese	Never return to Sri Lanka	2	1	6	1	5	0	1	16
	Return to Sri Lanka permanently	0	1	3	0	0	1	0	5
	Undecided	0	0	1	0	1	0	0	2
Tamil	Never return to Sri Lanka	5	1	4	1	1	0	1	13
	Undecided	0	1	0	0	0	0	0	2

Table 12 also shows that the respondents' reasons for leaving correlate strongly with their willingness to return to Sri Lanka permanently. With the exception of Sinhalese expatriates who left to further their education, the respondents who listed the most popular reasons for leaving in **Error! Reference source not found.** (bolded) also tend to be respondents who will not return to Sri Lanka permanently as seen in

Table 12 (bolded). The small number of Sinhalese respondents who left to further their education and who are willing to return to Sri Lanka permanently are likely going back to take academic positions at a Sri Lankan university. Further analysis of these three respondents shows that two of them were civil engineers in Sri Lanka and one worked as a university professor in Sri Lanka. Clearly the university professor left to get an advanced degree to build upon their qualifications in Sri Lanka. The civil engineers would likely pursue a career in education upon returning to Sri Lanka – some of the most prestigious schools in Sri Lanka are engineering schools (World Bank, 2003).

Table 13: Cross-tabulation - ethnicity + willingness to return on short-term assignment vs. reported reason for leaving

		Why did the respondent leave Sri Lanka?							
Ethnic Group	Is the respondent willing to return to Sri Lanka on a short-term assignment?	Conflict	Conflict, education	Education	Followed family	Jobs	Other	Political tension	Grand Total
Sinhalese	No	0	0	0	0	0	0	1	1
	Yes	2	2	10	1	5	1	0	21
Tamil	No	1	0	0	0	0	0	1	2
	Yes	4	2	5	1	1	0	0	13

Since the majority of respondents indicated that they would be willing to return to Sri Lanka on short-term assignment, the only analysis that can be done is to determine why three of the respondents are unwilling to go back. Table 13 shows that the three respondents who would not return for a short-term assignment listed political tension or conflict as their reason for leaving. “Political tension” is likely a politically correct way of referring to the civil war. In the follow-up question “what terms and conditions would you want to see in such an arrangement”, these three respondents indicated that they will not consider returning under any circumstances.

Question number one on the survey asked respondents in what year they left Sri Lanka and the findings show respondents left in a range between 1967 and 2004. Some interesting data emerges when you cross-tabulate the ethnicity of the respondent with the year they left Sri Lanka. The mean year for the Tamil respondents to leave Sri Lanka is 1983 and the mean year for Sinhalese respondents is 1993. This significant difference indicates that these two ethnic groups were motivated to leave Sri Lanka by different circumstances. It is also worth noting that the mean year for Tamils leaving Sri Lanka coincides with the outbreak of the civil war in Sri Lanka. Clearly, Tamils were impacted by this conflict earlier than their Southern neighbours – the Sinhalese. The mean year of Sinhalese respondent expatriation coincides with the first use of suicide bombers by the LTTE. By the early to mid 90s, it was clear that the LTTE was a serious threat to Sinhalese in Colombo. This would have the effect of increasing fear amongst the Sinhalese, possibly precipitating their expatriation.

6.5. Hometown of Respondents

Where the respondent lived in Sri Lanka prior to immigrating to Canada is bound to have some impact on their willingness to return and their reasons for leaving. Table 14 shows that a much lower proportion of respondents from Tamil-controlled districts⁶ in Sri Lanka are willing to return to Sri Lanka permanently. Twenty years of conflict have impacted the Tamil-controlled North and East much differently than the Sinhalese-controlled interior and South. In general, the quality of life in Tamil-controlled Sri Lanka is much lower than in the rest of the country (Morrison, 2001). This means that the hometown of a respondent can be used as a filter in determining which Sri Lankan scientists here in Vancouver would be willing to return.

⁶ Maps of Tamil-controlled areas can be found at www.globalsecurity.org.

Table 14: Cross-tabulation - willingness to return to Sri Lanka permanently vs. political control in district of origin

Is the respondent willing to return to Sri Lanka permanently?	Is the respondent from a Tamil controlled District?	Total	
No	No	20	67%
	Yes	10	33%
Yes	No	8	89%
	Yes	1	11%

It was then thought that the impact of the tsunami might have some kind of emotional draw for some respondents – the logic being that if their hometown was devastated by a natural disaster, they might be more motivated to return and help with the reconstruction effort.

Table 15 shows that the majority (85%) of the respondents came from districts that were hit by the December 2004 tsunami. Unfortunately, association with one of these devastated districts appears to have little or no impact on their decision to return. Only 6 out of 33 respondents (18%) whose districts were hit by the tsunami are willing to return permanently.

Table 15: Cross-tabulation - willingness to return to Sri Lanka permanently vs. impact of tsunami on district of origin

Is the respondent willing to return to Sri Lanka permanently?	Was the respondent's district of origin hit by the December 2004 tsunami?	Total	
No	No	3	10%
	Yes	27	90%
Yes	No	3	33%
	Yes	6	67%

Considering that a much higher percentage of respondents are willing to return to Sri Lanka on short-term assignments, cross-tabulating that factor against district of origin should yield different results. Table 16 shows that the political control in the district of origin appears to have little impact on willingness to return to Sri Lanka on a short-term assignment. This is an indicator that while long-running historical conflict appears to discourage the respondents from returning to Sri Lanka permanently, respondents may feel that the risks are low-enough on a short-term assignment that they are willing to return. Surely the likelihood of falling victim to a terrorist act during a four-month visit is significantly less than if the respondent were to return permanently.

Table 16: Cross-tabulation - willingness to return on a short-term assignment vs. political control in district of origin

Is the respondent willing to return to Sri Lanka on a short-term assignment?	Is the respondent from a Tamil controlled District?	Total	
No	No	1	33%
	Yes	2	67%
Yes	No	26	74%
	Yes	9	26%

Table 17 shows a strong correlation between the tsunami impacting a respondent's district of origin and their willingness to return to Sri Lanka on a short-term assignment.

Table 17: Cross-tabulation - willingness to return on a short-term assignment vs. impact of tsunami on district of origin

Is the respondent willing to return to Sri Lanka on a short-term assignment?	Was the respondent's district of origin hit by the December 2004 tsunami?	Total	
No	No	0	0%

Yes	Yes	3	100%
	No	6	17%
	Yes	29	83%

6.6. The Civil War

Civil war is a sensitive subject for any research subject that has lived through the conflict. Cruikshank and Holbrook suspected that not all respondents would answer truthfully when asked their reason for leaving Sri Lanka or, at the very least would downplay the importance of the conflict in their decision to leave. For that reason, a question was added to the survey that asked (independent of the question that asked why they left Sri Lanka): “Was the civil war a factor in your decision to leave?”

Table 18: Cross-tabulation - Reported reason for leaving Sri Lanka vs. indication that civil war was a factor in deciding to leave

Why did the respondent leave Sri Lanka?	Was the civil war a factor in the respondents' decision to leave Sri Lanka?	Total
Conflict	No	0
	Yes	7
Conflict, education	No	0
	Yes	4
Education	No	12
	Yes	4
Followed family	No	0
	Yes	2
Jobs	No	4
	Yes	3
Other	No	0
	Yes	1
Political tension	No	0
	Yes	2

Table 18 shows that while expectedly, the civil conflict was a factor in the decision to leave for people who initially reported that the conflict was their primary reason for leaving, it also figured heavily into the decisions of other respondents. For example, all of the respondents that said they left for Sri Lanka because of “political tension” also said that the civil war was a factor in their decision to leave. Almost half of the respondents that left for career reasons indicated that the civil war was a factor in their decision to leave.

This doesn’t necessarily mean that “political tension” is code for “civil war” but in the case of “jobs” or “education” – it is probably indicative of the fact that a civil war has far-reaching impacts into every aspect of life in a country like Sri Lanka. The job market is unstable because the security threats posed by the civil war make doing business in that country too risky for most investors (Economist, 2004).

6.7. Education level

Question 10 on the survey asked respondents to report their level of post-secondary education. This factor was intended to categorize respondents because it was thought that PhDs would be more desirable to recruit back to Sri Lanka than scientists with only a BSc. However, this data provides a unique opportunity to see if the level of education attained is a factor in respondents’ willingness to return.

Table 19: Cross-tabulation - highest level of post-secondary education vs. willingness to return to Sri Lanka

Highest Level of Post-Secondary Education	Is the respondent willing to return to Sri Lanka permanently?	Total		Is the respondent willing to return to Sri Lanka on a short-term assignment?	Total	
Bachelors	No	10	91%	No	1	10%
	Yes	1	9%	Yes	9	90%
Certificate/Diploma	No	7	78%	No	2	22%
	Yes	2	22%	Yes	7	78%
Doctorate	No	9	75%	No	0	0%
	Yes	3	25%	Yes	12	100%
Masters	No	3	50%	No	0	0%
	Yes	3	50%	Yes	6	100%
None	No	1	100%	No	0	0%
	Yes	0	0%	Yes	1	100%

While previous sections indicate that the majority of respondents (77%) are unwilling to return to Sri Lanka on a permanent basis, Table 19 shows that some levels of post-secondary education correlate more strongly with a willingness to return than others. Half of respondents with Masters degrees indicated that they would be willing to move back to Sri Lanka permanently. Twenty-five percent of respondents with a PhD indicated that they would be willing to go back to Sri Lanka permanently. This is in sharp contrast to those respondents with a Bachelors degree – 91% of these respondents are not willing to move back to Sri Lanka permanently. The last two columns of Table 19 show that overall willingness to return to Sri Lanka on a short-term basis is high but not as high for those respondents with only a Certificate/Diploma and to a small extent, those respondents with a Bachelor's degree.

These findings seem strange and disassociated with any kind of trend. However, when the state of the education system in Sri Lanka is considered, these findings make more sense. University graduates (the bulk of which receive only a Bachelors degree in Sri Lanka) have a hard time finding a job in Sri Lanka. There are far more qualified graduates than there are jobs – so much so that the government is often forced to create make-work jobs for these under-employed graduates in universities and government agencies in Sri Lanka (World Bank, 2003).

Few post-secondary schools in Sri Lanka offer graduate degrees, making those who hold a Masters degree better candidates in a highly competitive knowledge worker market. While these make-work jobs are not as prestigious as similar jobs in Western countries, the pay rate for these jobs puts them at the high end of the socio-economic status (SES) range in Sri Lanka. Therefore, it is not surprising that Masters-level scientists would be more receptive to the idea of moving back to Sri Lanka permanently.

One would expect then that the interest of PhD expatriate scientists would be even higher than the interest of expatriates with a Masters degree. However, Table 19 shows a drop-off in interest amongst expatriates with Doctorate degrees. This is likely attributable to the fact that while having a PhD might earn you a slightly higher standard of living in Sri Lanka, a PhD is a veritable pre-requisite for most high-profile research jobs in Western countries – jobs that are very desirable by scientists. In this way, the advantage of having a PhD brings greater relative personal rewards in a Western country like Canada than it does in Sri Lanka.

In terms of willingness to return to Sri Lanka on a short-term basis, only a small percentage of respondents (8%) are unwilling to return for four months to a year. Education level also factors into this variable in that all of the respondents who are unwilling to go back even on a short-term assignment had either a Bachelors degree or a Certificate/Diploma. Considering that anything less than a Masters degree confers little extra advantage in job-poor Sri Lanka, it is clear that these respondents who are unwilling to go back under any circumstance do not see an economic advantage to returning that would overcome their other prejudices.

6.8. Gender of Respondents

Table 20: Cross-tabulation - sex of respondent vs. ethnicity of respondent

Ethnic group	Female		Male		Grand Total
Sinhalese	11	48%	12	52%	23
Tamil	4	27%	11	73%	15

When we crosstabulate the gender of respondents with their self-identified ethnicity, we find that there is an interesting divergence between the Tamil respondents and the Sinhalese respondents. Table 20 shows that the gender split within the Sinhalese study cohort is nearly even while there are more than twice as many males than females in the Tamil study cohort. Overall, 62% of the respondents are male, with the remaining 38% identified as female. There is nothing unusual about this figure within the Canadian context but in South Asia, the labour-force participation of women is significantly lower. In Sri Lanka, roughly 60% of working-age women work vs. 80% in Canada (ILO, 1997).

Referring back to the background section on the nature of castes in Sri Lanka, it is clear that Sinhalese women are disadvantaged in such a system and would logically have less access to post-secondary education in Sri Lanka. Overseas, in liberal countries such as Canada, there would be no cultural restrictions to keep Sinhalese women out of the post-secondary school system or scientific careers. It is possible that some of these Sinhalese female respondents came to Canada for the opportunity to further their careers. While the Tamils also have a complex caste system, it is not nearly as restrictive for women as the Sinhalese caste system (Kemper, 1979). While Sriskandarajah (2002) indicates that Sinhalese expatriates tend to emigrate to Middle Eastern countries, it is unlikely that women would find this move to be beneficial to their careers. As restrictive as the Sri Lankan Buddhist caste system is on women, they would fare far worse in largely Islamic countries found in the Middle East.

Table 21: Cross-tabulation - gender vs. willingness to return

Gender	Is the respondent willing to return to Sri Lanka permanently?	Total		Is the respondent willing to return to Sri Lanka on a short-term assignment?	Total	
Female	No	11	73%	No	1	7%
	Yes	4	27%	Yes	14	93%
Male	No	19	79%	No	2	8%
	Yes	5	21%	Yes	22	92%

Table 21 shows that there is a slightly higher willingness to return to Sri Lanka if the respondent is female.

6.9. Conditions under which respondents would be willing to return

In order to make reasonable recommendations to the Sri Lankan government in terms of their recruiting strategy, the conditions under which a respondent would be willing to return must be examined. Amongst those respondents willing to return to Sri Lanka either on a permanent basis, the following conditions of return were listed frequently:

1. Salary in Sri Lanka covers living expenses (11%)
2. Good job opportunity (read as: not one of the old-style Sri Lankan Government make-work projects) (44%)
3. Ability to bring family members with them (44%)
4. Change in quality of life in Sri Lanka (22%)

In terms of the ability of MOST to meet these conditions, the first three demands are very reasonable. The last one however, is not achievable within the mandate of MOST. This demand was much more common amongst those respondents unwilling to return to Sri Lanka on a permanent basis as was “the end of the civil war”. While these are good things to strive for, they are large, long-term goals that are beyond the scope of this study.

For respondents who are willing to return to Sri Lanka on a short-term basis, the expectations are more varied and in some cases, less reasonable:

1. Basic living expenses (9%)
2. Guarantee that old job will be available in Vancouver upon their return (11%)
3. Salary comparable to their salary in Vancouver (17%)
4. Good job opportunity (29%)
5. Change in quality of life in Sri Lanka (11%)
6. Safety for respondent and family guaranteed (14%)
7. Limited interference from Sri Lankan Government (6%)
8. Ability to bring family members with them (49%)

Again, basic living expenses and an interesting job opportunity are well within the scope of MOST where the rest of these requests are not within the scope of MOST’s mandate.

7. Conclusions

From the analysis of the findings, it is clear that the following factors figure heavily into a respondent’s decision to return to Sri Lanka:

1. Year of departure from Sri Lanka

Respondents who are willing to return to Sri Lanka either on a short-term or permanent basis expatriated from Sri Lanka an average of ten years later than those respondents who are unwilling to return.

2. Education opportunities/Visa type

It is clear across the board that Sri Lankans who arrived in Vancouver on a student visa are far more willing to return to Sri Lanka permanently than other expatriates. Similarly, of those respondents who are unwilling to return to Sri Lanka permanently but who are willing to return on a short-term assignment – 42% left Sri Lanka to further their education.

3. Ethnicity

Sinhalese respondents are more likely to be willing to return to Sri Lanka permanently than Tamil respondents. This conclusion is further verified when one looks at the district or origin reported by respondents. Respondents who do not live in Tamil-controlled districts are far more likely to be willing to return to Sri Lanka permanently than those who are from Tamil-controlled districts.

However, on short-term assignments, there is little difference between Tamil and Sinhalese respondents.

4. Education level

Respondents with Bachelors degrees or Certificates/Diplomas appear to be less enthusiastic about returning to Sri Lanka than respondents with Masters degrees (and to a lesser extent, Doctorates).

5. Gender

Women appear to be slightly more inclined to return to Sri Lanka than men.

This leads to the conclusion that there are categories of expatriates that MOST should be targeting to recruit back to Sri Lanka. In terms of why the respondents left Sri Lanka in the first place – the findings are clear. The civil war is a huge factor in nearly every respondent's decision to leave and for those who didn't specifically identify "conflict" as they're reason for leaving – their reasons are closely tied to the war. For example, many respondents listed that they left to further their education. Twenty years of civil war have wreaked havoc on the Sri Lankan education system. Without the civil war, these respondents might have had the opportunity to further their education in Sri Lanka at robust institutions that offer high-quality graduate degrees. In the vast majority of cases, respondents indicated that the quality of life in Sri Lanka is much lower than in Canada. Again, the difference is most likely attributable to the civil war.

In conclusion, it is clear that most respondents left Sri Lanka to escape the low quality of life brought on by the civil war in Sri Lanka and the most recruitable respondents are recently expatriated Sinhalese students who will be obtaining their Masters degree shortly.

8. Limitations of this Research

This study evolved as the researchers learned more about living conditions and political tension in Sri Lanka. Given the short time frame and lack of funding for the research, it is understandable that the scope of data collection was small. However, a better sample of data (more respondents) would have yielded statistically significant data that could be analyzed using more sophisticated tools such as SPSS. A sample size of 150 respondents would have yielded statistically significant results.

In retrospect, some of the questions on the survey could have been worded better and others proved to have little impact on the research questions: why did the expatriate leave and what would entice them to come back. For example, the question about whether the respondent came alone or came with family is next to useless at the analysis stage because the survey doesn't ask if they currently have family ties here. In some cases, the respondent may have come alone 20 years ago and now has a substantial immediate family here.

Finally, the positioning of the research may have left some respondents unwilling to be completely honest with the researchers. Through interviews with subject matter experts, it is clear that the Sri Lankan government does not have a good track record for dealing fairly with its citizens. The interviews were set up under the pretext that the research was being conducted by SFU but that the researchers were in contact with the government of Sri Lanka and this was the source of the impetus for the research. A number of respondents were concerned wary that the transcript of their interview or their name would be released to the Sri Lankan government.

9. Recommendations

The original intent of this research was to generate some recommendations for the Ministry of Science and Technology (MOST), Sri Lanka to help them mitigate their brain-drain problem in the sciences. This ministry is constrained by the fact that they have a very limited budget with which to work and are not a high-priority ministry within Sri Lanka at the moment.

The following recommendations are directed at MOST to address the question of what can be done to recruit Sri Lankan expatriate scientists back to Sri Lanka to help rebuild the nation:

1. Coordinate with the universities in Sri Lanka to determine which students have gone overseas to complete a Masters degree in the sciences. Approach these students through official channels and offer them a good opportunity in Sri Lanka, in their field, following their graduation. These offers would be real jobs, ready to jump into with private-sector labs in and around Colombo. The job postings would be culled by consulting with private sector employers in Sri Lanka and would entail limited interference by government. These offers would be accompanied by an aggressive marketing campaign showing how the quality of life in Sri Lanka is improving. Cost of re-locating should be covered. If it is politically prudent to specifically target Tamil expatriate scientists to return to Sri Lanka, a very aggressive public relations campaign would have to be developed to show expatriate Tamils that the quality of life in Sri Lanka for them would be comparable to their Sinhalese contemporaries.
2. Work with the Government of Canada to identify highly qualified Sri Lankan expatriate scientists (preferably Doctorates) working in government and university labs who would be willing to return to Sri Lanka on a short-term assignment to help rebuild infrastructure and advise the government on accelerating their high tech industries. This program would be run in conjunction with the government of Canada as an exchange program and would see Sri Lankan scientists come to Canada to replace the Sri Lankan expatriates who return to Sri Lanka. Funding for this project would come from Canada's relief-aid funds through CIDA and would be administered by the Project for Rehabilitation through Education and Training (PRET) currently being run by the World University Service of Canada.
3. MOST works within Sri Lanka to increase receptor capacity of local industry for recent Sri Lankan graduates who have not yet left the country. Advice on how to achieve this should come from experienced Sri Lankan expatriate scientists living in Western countries who do not necessarily need to return to Sri Lanka to assist in the design of industrial development policy. Similar work by other South Asian countries should be sought out and best practices identified.
4. MOST will make their recruiting materials look more professional and attractive to expatriate scientists. Currently, their web-presence is mismatched with the seriousness of their intent.

The timeline for carrying out these recommendations should be short. While there is no evidence that the tsunami has an impact on respondent's willingness to return to Sri Lanka, the incident has highlighted the extreme need for reconstruction in Sri Lanka for many expatriates and could be used as a pretext to contact these scientists.

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12. Appendix A: The Survey

CMNS 362 Survey Project

A Survey of Sri Lankan expatriates

Note: DO NOT give the survey to the respondent to fill out. Ask the questions as they are written and record the responses yourself. Have a clipboard or other hard surface to write on.

Survey procedure:

1. Identify yourself: “ Good morning/afternoon/evening. I am a student in the School of Communication at Simon Fraser University. Would you be willing to answer a few questions about your views on the circumstances under which you might be willing to return to Sri Lanka on a short-term assignment to assist the nation in reconstruction and technological development for my SFU university course on research methods? This survey will take approximately 10 minutes”
2. *If the response is yes*, “Thank-you. The results from this survey will be used for a study by SFU of the views of emigrants on campaigns to access their unique combination of cultural awareness and technical training for the benefit of their country of origin. You may stop the survey at anytime. No individual data will be released and will only be used to create to aggregate results. The university’s ethics committee has granted ethical approval for this survey.”
3. If the answer is no: “Thank you. May I ask why?” (*Write down answer below*).
4. “Are you 18 or older?” (***If not stop the survey***).
5. Commence survey. (*If the participant discontinues the survey at any time, please ask and record the reason why the respondent has stopped*).
6. At the end of the survey, thank the respondent for participating.

Vancouver Sri Lanka Expatriate Survey

1. In what year did you leave Sri Lanka?: _____

2. Did you move directly to Vancouver from Sri Lanka?: Yes No

2a. If “No” for question 2: Where did you live after leaving Sri Lanka before coming to Vancouver?

3. Did you bring family members with you or did you come alone: came with family came alone

4. When you moved to Vancouver, did you come as a student or a regular immigrant? Student Regular

5. Do you plan on staying in Vancouver permanently, move to another city or return to Sri Lanka eventually?

Stay in Vancouver permanently Move to another city (if so, which city?) Return to Sri Lanka

6. Why did you leave Sri Lanka?

7. In Sri Lanka, what city did you call home?: _____

8. Which ethnic group do you most strongly identify with? Tamil Sinhalese Islamic Christian Other

9. Was the civil conflict between the Tamils in the North and the Sinhalese government in the South a factor in your decision to leave Sri Lanka? Yes No

10. What post-secondary levels of education have you achieved and where?

Post-secondary level	School	Location (city, country)
Bachelor's Degree		
Master's Degree		
PhD		
Trade certificate (welding, plumbing, etc...)		
College certificate		
Other		

11. Did you work when you lived in Sri Lanka? If so what did you do there?:

12. What is your current job? _____

12a. If you are not doing what you would like to do, what occupation are you qualified for, and would like to do? _____

13. How does life in Canada compare to life in Sri Lanka when you left?

14. If you are not already planning to return to Sri Lanka either permanently or temporarily, what would make you want to return to Sri Lanka?:

15. If you had the opportunity to return to Sri Lanka to work for 4 months to a year in a field clearly related to your current expertise, would you go? Yes No

16. What terms and conditions would you want to see in such an arrangement?

17. Would you want to take your family with you? Yes No

18. Any other comments?:

Field Notes

Observer: Gender: Male ☐ Female ☐

Note: Survey location: _____ Name of Surveyor: _____

Survey refused? Yes ☐ No ☐

Why? _____

13. Appendix B: The MOST invitation to Sri Lankan expatriate scientists

Your Country Needs You

Open Invitation for Sri Lankan Expatriate Scientists.

The intervention of the advance Science & Technology is needed for economic development of the country. This is an open invitation for eminent expatriate scientists, to contribute your expert knowledge and experience to develop our Motherland.

The Ministry of Science & Technology has started to identify key areas where expatriate interventions are needed. We expect your services on short assignments, duration is ranging from 1 to 6 months, and you can attach to any S&T Research Institutes, Universities, or other relevant Institutes where your services are needed.

Attention of the Ministry is presently focused on but not limited to the following areas for technology transfers;

- Agro-technology – including micro-irrigation, fertigation, hydroponics; bio-fertilizers and bio-pesticides and alternatives to chemical based pesticides for insect and pest control in agriculture
- Biotechnology – including tissue culture, genetic characterization, gene mapping and modification and DNA related techniques, molecular techniques for early detection of diseases in humans
- Food Science and Technology – including analysis of chemical, hormonal and antibiotic residues in food products; toxic compounds in foods and food products
- Post-harvest technology – including post harvest treatment, storage, packaging and processing techniques for value addition
- Information and communication technology - including software and hardware development
- Environmental science and technology – including liquid and solid waste treatment and management, industrial effluent treatment, water quality; remote sensing applications in land and coast; GIS
- Polymer and rubber technologies
- Process engineering
- Electronics and telecommunication technologies
- Mechanical, Civil, Manufacturing and robotic engineering
- Aquatic Resources and related technologies – oceanography, marine sciences
- Textile and garment technology – textile effluent treatment (bio-conversion and management of waste water)
- Industrial production and management technology
- Materials engineering
- Mineral Resources and precious stones
- Meteorology
- Earth sciences
- Archaeology
- Musicology

The Ministry of Science & Technology will entertain a show of interest by eminent scientists, and will facilitate such visits by meeting their travel expenses. Those interested scientists can indicate their willingness to participate by sending **e mail Registration form** with required information to the following address. somamaha@diamond.lankanet.

Your early response in this matter is greatly appreciated.

Secretary,
Ministry of Science & Technology,
561/3, Elwitigala Mawata,
Colombo 05.

REGISTRATION FORM

Title (Prof./Dr./Mr./Ms.):	
Surname:	
Given name(s):	
Country of Residence:	
Country of Citizenship:	
Present address:	
Telephone:	
Fax:	
E-mail:	
Field of specialization:	
Qualification:	
Present Occupation:	
Present Employer:	
Preference relating to work area/ Technologies:	
Preference to institution(s) in Sri Lanka (If any):	
Preferred period of stay in Sri Lanka:	
Suggestions on any proposed work plan (Detailed information is required):	
Required facilities to carry out programmes in Sri Lanka:	